



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,241	06/09/2006	Young-Hoon Park	3884-0127PUS1	2866
2292	7590	12/05/2008	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			NGUYEN, QUANG	
PO BOX 747				
FALLS CHURCH, VA 22040-0747			ART UNIT	PAPER NUMBER
			1633	
			NOTIFICATION DATE	DELIVERY MODE
			12/05/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.		Applicant(s)	
	10/582,241		PARK ET AL.	
	Examiner		Art Unit	
	QUANG NGUYEN, Ph.D.		1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's amendment filed on 08/27/2008 was entered.

Amended claims 1-3 and new claim 4 are pending in the present application, and they are examined on the merits herein.

Response to Amendment

The rejection under 35 USC 101 was withdrawn in light of Applicant's amendment.

The rejection under 35 U.S.C. 112, first paragraph, for the lack of Written Description was withdrawn in light of Applicant's amendment.

New Matter

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Amended claims 1-3 and new claim 4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. ***This is a new ground of rejection necessitated by Applicant's amendment.***

Amended independent claim 1 and new claim 4 recite the limitation “**An isolated threonine importer**” while amended claim 2 and its dependent claim 3 recite the limitation “**by defecting the threonine importer from a *Corynebacterium glutamicum* strain having a low threonine requirement**”. As written, claims 1 and 4 encompass both an isolated threonine importer protein and an isolated threonine importer gene having the recited limitations. In the amendment filed on 8/27/08, Applicants cited Figure 1 and examples 2-3 as written support for the limitation of “an isolated threonine importer”; and examples 4-5 as written support for the above new limitation of claim 2. However, it is noted that in Figure 1 and examples 2-3 a cloned DNA fragment encoding the threonine importer from *Corynebacterium glutamicum* was prepared and isolated; and throughout the entire instant specification there is no written support for a concept of expressing and purifying/isolating the threonine importer protein from *Corynebacterium glutamicum*. With respect to the new limitation in claims 2-3, example 4 is directed simply to the preparation of a thrY-defective strain from the low-threonine-requiring strain CJ L-1 to a high-threonine-requiring strain, and has nothing to do with increasing the yield of threonine by defecting or knocking out the endogenous thrY gene of the strain CJL-1. Additionally, example 5 only showed the preparation of the thrY-defective strain CJT-2 (a threonine-producing strain) which does not require any threonine in the fermentation medium (see Table 2). Thus, there is **no written support** in the originally filed specification for the embodiments encompassed broadly by the presently amended claims.

Therefore, given the lack of sufficient guidance provided by the originally filed specification, it would appear that Applicants did not contemplate and/or had possession of the instant broadly claimed invention at the time the application was filed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. ***This is a new ground of rejection necessitated by Applicant's amendment.***

The term "normal" in claim 2 is a relative term which renders the claim indefinite. The term "normal" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. This is because it is unclear which *Corynebacterium glutamicum* strain would or would not be considered to have normal threonine requirements.

Additionally, in claim 2 it is also unclear what is the connection between the limitation "wherein the threonine importer is expressed by a contiguous DNA sequence from the 1,772nd base to the 3,025th base among DNA sequences with the SEQ. ID. No. 1" with the step of "defecting the threonine importer from a *Corynebacterium glutamicum*". Why does the step of defecting the threonine importer still result in the

Art Unit: 1633

expression of the threonine importer? Clarification is requested because the metes and bounds of the claim are not clearly determined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Amended claim 1 is still rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al. (US 2002/0197605) for the same reasons already set forth in the Office action mailed on 5/27/08 (pages 6-7). ***The same rejection is restated below.***

Nakagawa et al already disclosed *Corynebacterium glutamicum* SEQ ID NO:1 comprising a threonine importer nucleic acid sequence (nucleotides 3,231,051 to 3,232,304) that is 100% identical to the DNA sequence from the 1,772 base to the 3,025 base of SEQ ID NO:1 of the present invention (see at least Summary of the Invention, paragraph 20 and SEQ ID NO:1).

Please, also note that where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. See In re Ludtke. Whether the rejection is based on "inherency" under 35 USC 102, or "prima facie obviousness" under 35 USC 103, jointly or alternatively, the burden of proof is the

Art Unit: 1633

same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products. In re Best, Bolton, and Shaw, 195 USPQ 430, 433 (CCPA 1977) citing In re Brown, 59 CCPA 1036, 459 F.2d 531, 173 USPQ 685 (1972).

Accordingly, the teachings of Nakagawa et al meet every limitation of the claim as broadly written. Therefore, the reference anticipates the instant claim.

Response to Arguments

Applicants' arguments with respect to the above rejection in the Amendment filed on 8/27/08 (pages 4-5) have been fully considered but they are respectfully not found persuasive.

Applicants argue basically that the Nakagawa et al reference does not teach the defined nucleic acid sequence corresponding solely to the threonine importer gene nor does it mention about a threonine importer gene, while the present invention is drawn to a defined nucleic acid sequence corresponding solely to the threonine importer gene from *Corynebacterium glutamicum* and not the entire genome.

Please note that as written the claim encompasses a threonine importer nucleic acid sequence as long as it **comprises** nucleotides 1772 through 3,025 among other nucleotides of SEQ ID NO. 1 (4846 nucleotides); and as such the claim also encompasses *Corynebacterium glutamicum* SEQ ID NO:1 of Nakagawa et al, which meets the limitation of the instant claim.

Accordingly, amended claim 1 is still rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al. (US 2002/0197605) for the same reasons set forth above.

New claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Pompejus et al. (US 6,696,561). ***This is a new ground of rejection necessitated by Applicant's amendment.***

The claim is drawn to an isolated threonine importer consisting of a sequence expressed by a contiguous DNA sequence from the 1772 base to the 3,025 base among DNA sequences with the SEQ ID NO:1. It is noted that as written, the claim does not require that the sequence has to consist of nucleotides 1772 through 3,025 of SEQ ID NO:1; and as such the following rejection is applied.

Pompejus et al already disclosed an isolated nucleic acid sequence of SEQ ID NO:543 from *Corynebacterium glutamicum* that is 81.8% similarity or 99.8% local similarity to nucleotides 1772-2810 of SEQ ID NO:1 of the present invention (see at least the abstract; Table 1 on page 62; RXN00960 on page 324 and 482). Therefore, the SEQ ID NO:543 consists of a sequence present or expressed by a contiguous DNA sequence from the 1772 base to the 3,025 base among DNA sequences with the SEQ ID NO:1.

Accordingly, the teachings of Pompejus et al meet the limitation of the instant claim as written. Therefore, the reference anticipates the claim as written.

Conclusion

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang Nguyen, Ph.D., whose telephone number is (571) 272-0776.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Joseph T. Woitach, Ph.D., may be reached at (571) 272-0739.

To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1633; Central Fax No. (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now

Art Unit: 1633

contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

/QUANG NGUYEN/

Primary Examiner, Art Unit 1633